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# LAN and WAN Migration

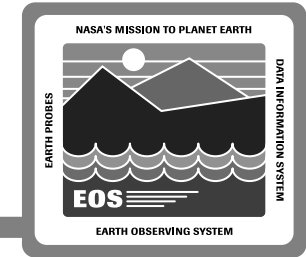
## Ezra Jalleta

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17 January 1995

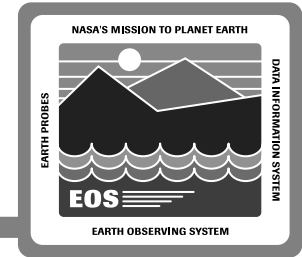
# LAN Migration

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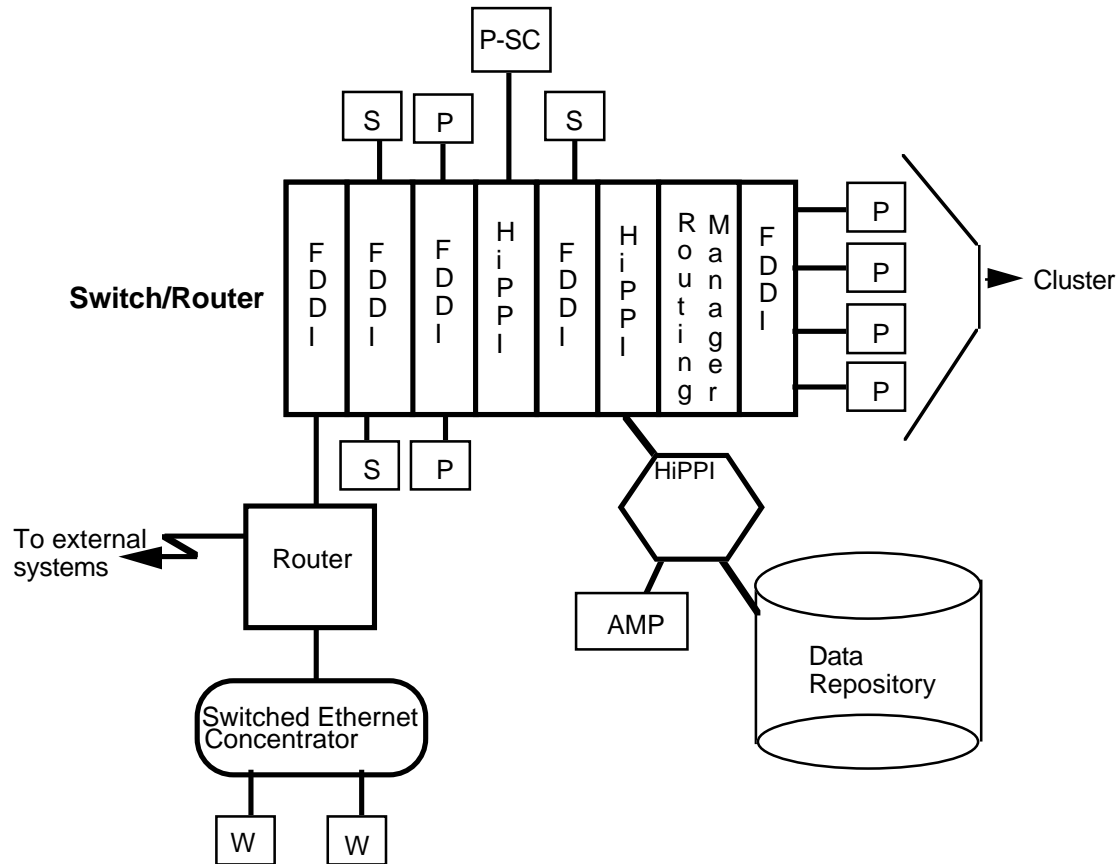
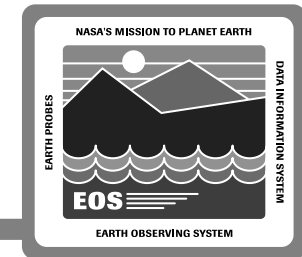
- **High speed LANs will be needed to accommodate the higher processing volumes and I/O rates of the future (EOSD 5070; ECS shall enable expansion to GByte networks)**
- **For speeds over 100 Mbps:**
  - **HiPPI is a mature technology right now**
  - **ATM implementations are becoming widespread, but issues still exist**
  - **Fibre Channel is not widely implemented**

# LAN Migration (cont.)

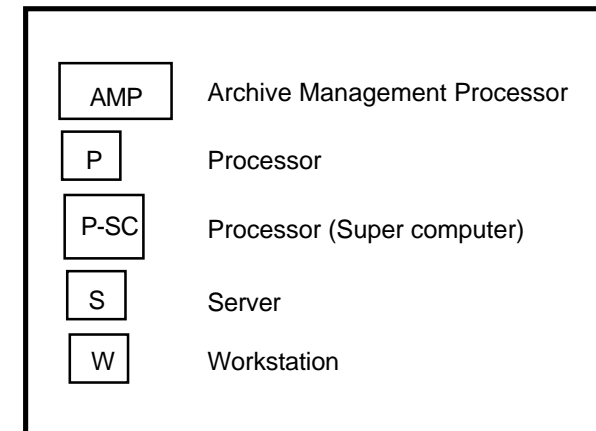


- **Choices for SDPS LANs must be made with migration in mind. Options of DAAC network migration path include:**
  - **Use of a network device that supports mixed media and is able to accommodate emerging technologies (e.g. using a switch/router, HiPPI and FDDI modules are replaced by ATM and Fibre Channel modules)**
  - **Use of several concentrators and switches supporting different media and technology and replacing them as new and emerging technologies mature (e.g. A HiPPI switch is replaced by an ATM or FibreChannel switch)**

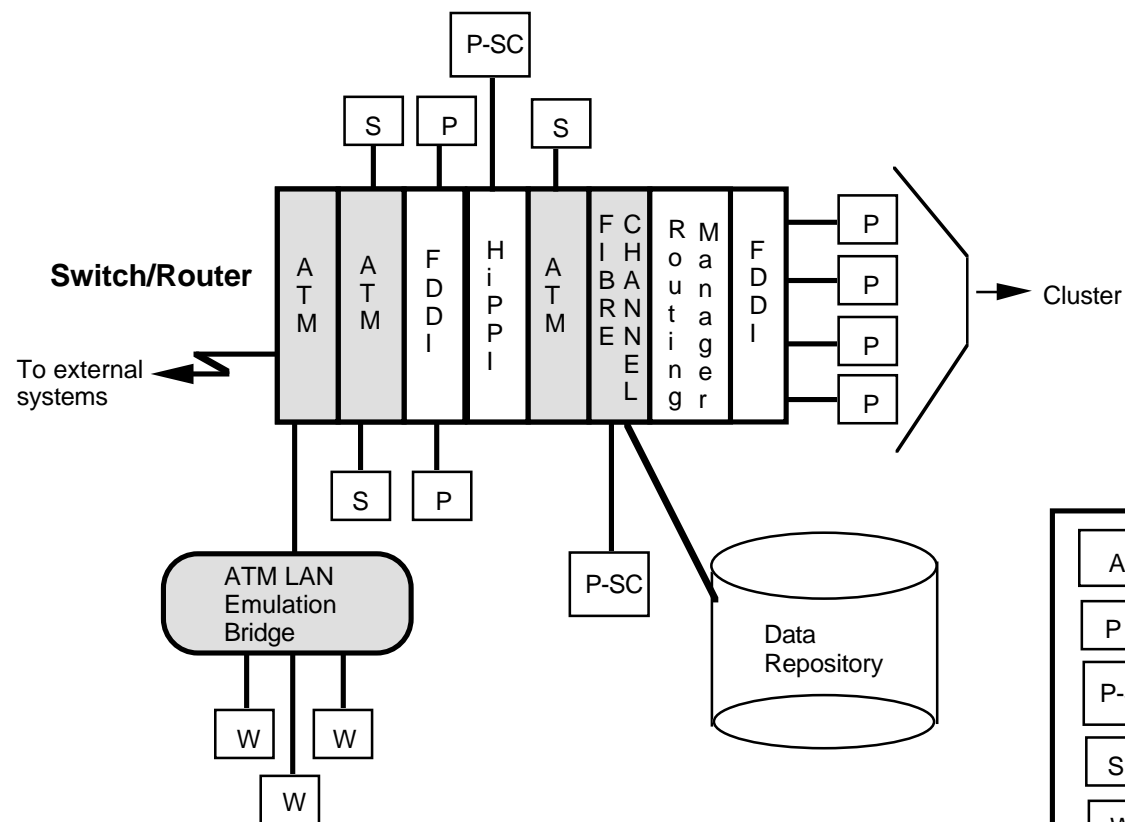
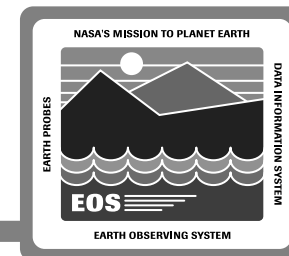
# LAN Migration (cont.)



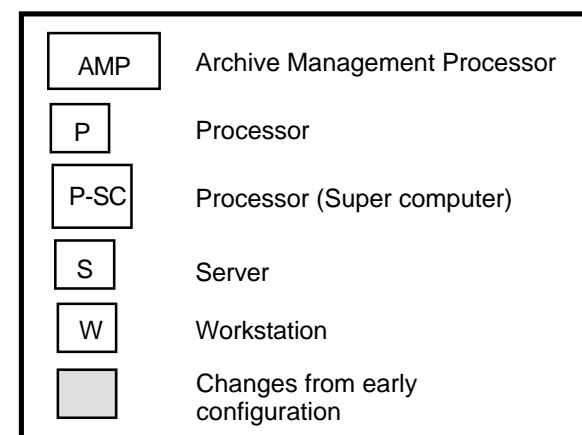
**Early Configuration**



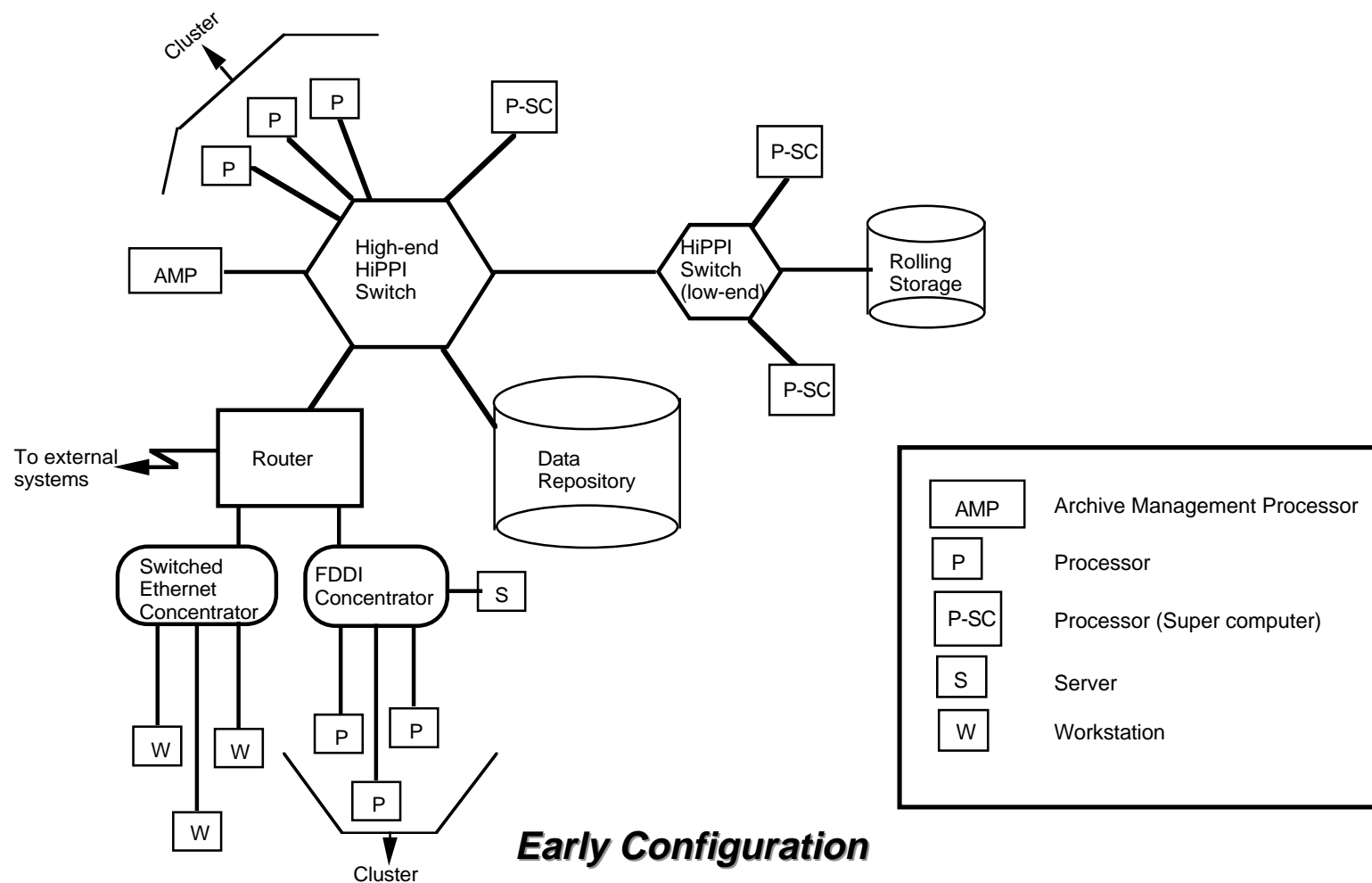
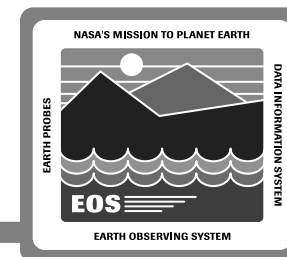
# LAN Migration (cont.)



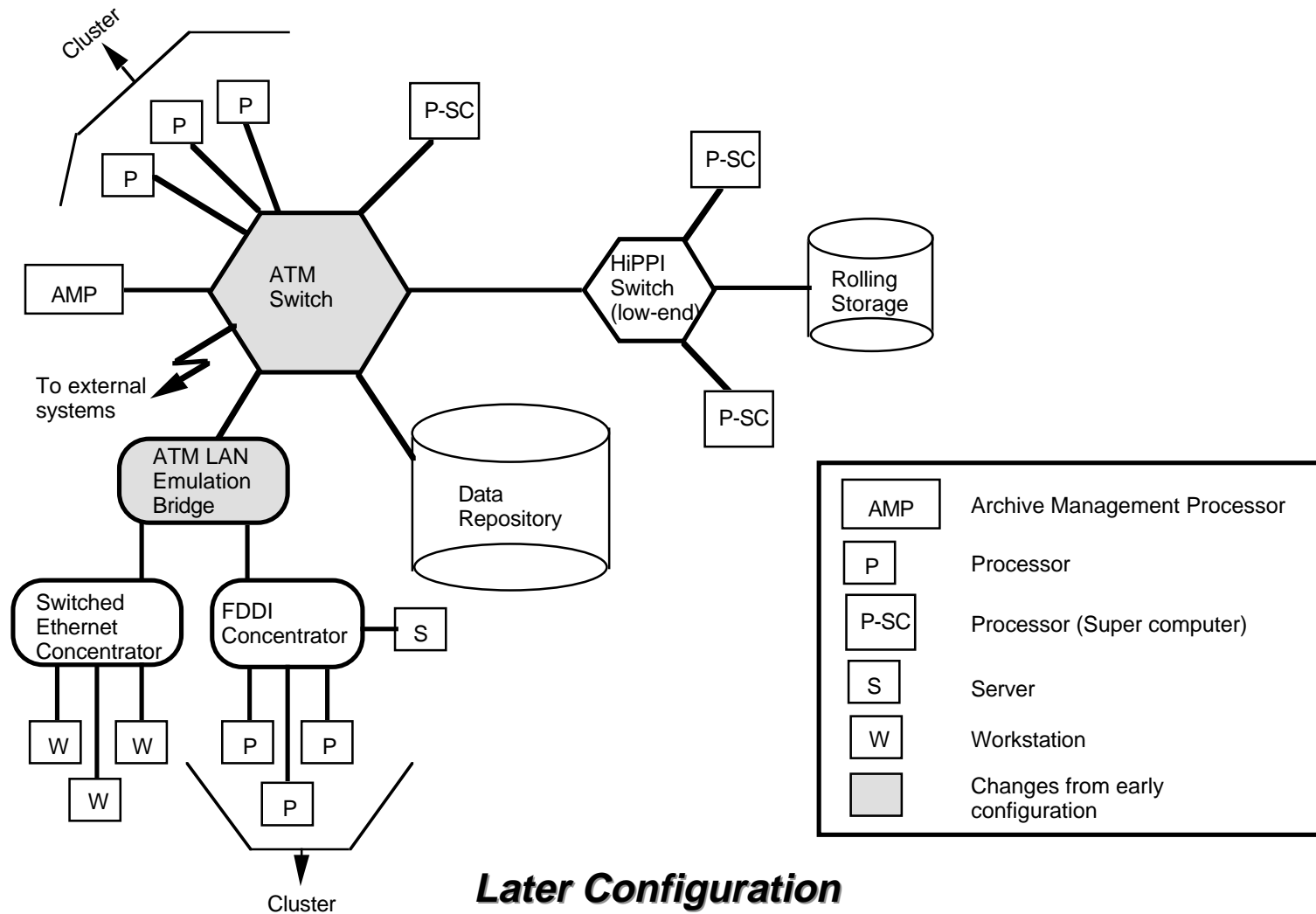
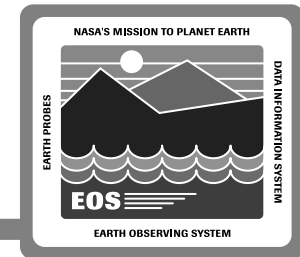
**Later Configuration**



# LAN Migration

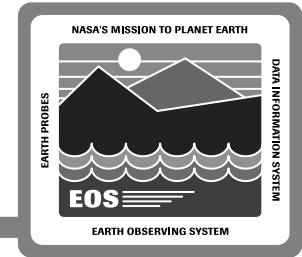


# LAN Migration



# LAN Migration (cont.)

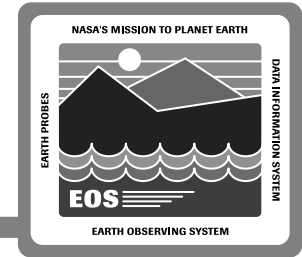
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- **ATM will not be used for Release A LANs. The next decision point is Release B IDR (late 1995).**
- **CSMS will prototype/benchmark ATM LAN equipment over the next 6 months, focusing on:**
  - **performance**
  - **LAN emulation (over Ethernet and FDDI)**
  - **Network management**
  - **QoS (bandwidth guarantees)**



# WAN Migration



- **Several initiatives are targeted at prototyping ATM and other new technologies for WANs in the context of EOSDIS**
  - **Common Transmission Infrastructure (CTI)**
  - **NREN**
  - **V0 Circuit Prototypes**
  - **EOSDIS ATM Prototype (UNH to OSU, ATM over DS-3)**
- **CSMS will participate in and monitor the results of these prototypes to understand end-to-end implications of WAN technology transition**